



US006906469B2

(12) **United States Patent**
Langford et al.

(10) **Patent No.:** **US 6,906,469 B2**
(45) **Date of Patent:** **Jun. 14, 2005**

(54) **RADIO FREQUENCY ION SOURCE WITH
MANEUVERABLE ELECTRODE(S)**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/432,313**

(22) PCT Filed: **Nov. 21, 2001**

(86) PCT No.: **PCT/GB01/05104**

§ 371 (c)(1),

(2), (4) Date: **Sep. 15, 2003**

(87) PCT Pub. No.: **WO02/43100**

PCT Pub. Date: **May 30, 2002**

(65) **Prior Publication Data**

US 2004/0032211 A1 Feb. 19, 2004

(30) **Foreign Application Priority Data**

Nov. 24, 2000 (GB) 0028682

(51) **Int. Cl.**⁷ **H01J 7/24**

(52) **U.S. Cl.** **315/111.81; 315/111.71;**
315/111.41; 250/426; 250/423 F; 250/423 R

(58) **Field of Search** 315/111.81, 111.91,
315/111.41, 111.21; 250/423 R, 286, 281,
426, 423

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(57) **ABSTRACT**

An rf ion source suitable for low power operation over a range of pressures in air which comprises discharge electrode, a cathode and an anode, the cathode being connected to an rf signal supply through an associated coupling means and the anode adapted to provide a surface area over which a plasma discharge may occur no greater than substantially that of the cathodal area over which the discharge may occur. The anode and cathode are arranged to be maneuverable with respect to one another in order to reduce the power requirements of the system and provide a means of controlling the rf discharge and ionization. An extended rf ion source, comprising a series of electrode pairs, provides flexibility for use in a variety of circumstances.

12 Claims, 5 Drawing Sheets

